

HEC Subcommittee

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HEC Roadmap

- Past – Original PITAC Report
- Current
- Future

PAST – First PITAC Report

- Increased level of funding for NSF Centers
- NSF Centers should be 1 (no more) generation behind ASCI
- Increased support of the US Research Community
 - Innovative Architectures
 - Innovative Software
 - High End Ripe for new applications
- Necessary for National Security

CURRENT EVENTS

- Funding of DTF (Distributed TeraFlop – TeraGrid)
 - Heterogeneous, physically distributed systems
 - Globus
- Life Sciences a new application (Genome Sequencing)
- Massive Database
 - Supporting PetaByte Databases
 - Everything ONLINE
- Movement to RISC based MPP's
 - Consolidation of RISC vendors

FUTURE

- Convergence of Computing/Communications
 - Grid Computing goes Prime Time
 - Bandwidth across the country is as fast if not faster than bandwidth within a center
 - Much more work required for application and software environment
- Moore's Law Continues
 - 10 GHz processor's by the end of the decade
- Advancements in Material Science
 - Nano Technologies
 - Optics
- “Secure” computing mandatory
- Open Source is the norm
- Sustained PetaFlop computing